

C L A I M S

1.- Method for supplying a charge, with recovery of electrical energy, **characterised** in that it comprises
5 supplying a charge with electrical energy derived from first electrical energy accumulator means, and returning at least a proportion of the said electrical energy after it passes through the charge, to the first accumulator means for the purpose of recovering the electrical energy
10 supplied.

2.- Method according to Claim 1, characterised in that the electrical energy, after passing through the charge, is recovered by second electrical energy
15 accumulator means, from where it is transferred to the said first accumulator means.

3.- Method according to claim 1 or 2, characterised in that a cyclic transfer of electrical
20 energy takes place between the said first and second energy accumulator means.

4.- Method according to any one of the preceding claims, characterised in that the recovery of energy from
25 the said second accumulator means to the first takes place without passing through the charge.

5.- Method according to any one of the preceding claims 1 to 4, characterised in that the recovery of
30 energy from the said second accumulator means to the first takes place through the charge.

6.- Method according to Claim 5, characterised in that during the energy recovery through the charge, the
35 polarity of the charge is reversed.

7.- Method according to any one of the preceding claims, characterised in that the transfer of energy is brought about by cyclically connecting from parallel to serial, and vice versa, two or more electrical energy accumulator elements which form part of the said first accumulation means and/or the said second accumulation means.

8.- Device for supplying a charge with recovery of electrical energy, **characterised** in that it comprises first electrical energy accumulator means and second electrical energy means, and in that the charge is connected between the said first and second accumulator means.

9.- Device according to Claim 8, characterised in that it has a unidirectional connection connected in parallel to the charge for the circulation of recovered electrical energy after its passage through the charge, and through which the said energy is returned to the first accumulator means.

10.- Device according to Claim 9, characterised in that the unidirectional connection has a semiconductor diode.

11.- Device according to any one of Claims 8 to 10, characterised in that the first energy accumulator means consist of a direct current battery.

12.- Device according to any one of Claims 8 to 11, characterised in that the second electrical energy accumulator means comprise at least two capacitors and switchable means for cyclically connecting the said two

capacitors from parallel to serial and vice versa.

5 13.- Device according to any one of Claims 8 to 12, characterised in that a semiconductor diode is provided that is connected between the charge and the first or second accumulator means.

10 14.- Device according to any one of Claims 8 to 13, characterised in that when the capacitors are connected in parallel, they are charged by means of the charge with the energy supplied from the battery, due to the position of the diodes, and when they are connected in series they are discharged through the unidirectional connection to the battery.

15 15.- Device according to any one of Claims 8 to 13, characterised in that when the capacitors are connected in parallel, they are charged through the unidirectional connection with the energy supplied from the battery, due to the position of the diodes, and when they are connected in series they are discharged through the charge.

25 16.- Device according to Claim 8, characterised in that the said first and second electrical energy accumulator means consist of at least two direct current batteries and switching means for cyclically connecting the said batteries from parallel to serial and vice versa.

30 17.- Device according to Claim 17, characterised in that serial or parallel connection status of the batteries of the first and second accumulator means is different at all times.

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18.- Device according to Claims 16 or 17,
characterised in that the charge is connected to the
batteries of the first and second accumulator means
through switchable means which reverse the polarity of
5 the charge depending on the serial or parallel connection
status of the said batteries.

19.- Device according to any one of Claims 8 to
18, characterised in that it has a capacitor connected in
10 parallel to the charge.

20.- Device according to any one of Claims 8 to
19, characterised in that the charge is a resistive or
inductive charge.

21.- Device according to any one of Claims 8 to
20, characterised in that the charge is a DC motor.

22.- Device according to Claims 8, 11 and 12,
20 characterised in that the charge comprises a first
primary winding and a second primary winding, and in that
it has third electrical energy accumulator means, so that
the first winding is connected between the first and
second accumulator means, and the second winding is
25 connected between the first and third accumulator means.

23.- Device according to Claim 22, characterised
in that the third accumulator means comprise at least two
capacitors and switchable means for cyclically connecting
30 the said two capacitors from parallel to serial and vice
versa.

24.- Device according to Claims 22 and 23,
characterised in that the capacitors of the third
35 accumulator means are cyclically connected from parallel

to serial and vice versa, and in that its connection status, serial or parallel, is always different from the connection status, serial or parallel, of the capacitors of the second accumulator means.

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25.- Device according to Claim 24, characterised in that the capacitors which are connected in parallel are charged by means of the winding, through which they are connected to the battery, up to the voltage of the battery, and in that the capacitors that are connected in series are discharged to the battery through the winding by means of which they are connected to the said battery, the charging and discharging currents circulating in the same direction.

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26.- Device according to Claim 25, characterised in that the switching of the switching means of the second and third accumulator means takes place simultaneously in order to change the serial or parallel connection status of the capacitors with which they are associated.

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27.- Device according to Claims 22 to 26, characterised in that the primary and secondary windings constitute the primary of a transformer which also has a secondary winding in which an alternating voltage is induced whose frequency depends on the speed of switching of the switchable means.

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28.- Device according to Claim 27, characterised in that it comprises a diode bridge which receives the alternating voltage induced in the secondary of the transformer, and whose output is supplied to a DC to AC converter through a capacitor.

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29.- Device according to Claims 22 to 26, characterised in that it comprises an alternating current motor so that the primary and secondary windings induce its voltage in the said alternating current motor.

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30.- Device according to Claims 22 to 26, characterised in that it comprises a direct current motor so that the primary and secondary windings induce its voltage in the said direct current motor, and in that it comprises switchable means associated with the said primary and secondary windings for changing the polarity of the connection of the said windings so that the charging and discharging currents always circulate through them in the same direction and a DC voltage is generated in the motor.

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31.- Device according to Claims 22 to 30, characterised in that it comprises an external energy source connected in parallel to the battery to compensate for the losses of energy that may occur.

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32.- Device according to any one of Claims 8 to 31, characterised in that the switching means are selected from the group formed by: mechanical, electromechanical, electrical or electronic means.

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33.- Device according to any one of Claims 8 to 32, characterised in that it has programmable electronic means which control the switching of the said switchable means.

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